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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/849,523

**Applicant(s)**

UZUKA ET AL.

**Examiner**

DHIRU R. PATEL

**Art Unit**

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/55/08)  
Paper No(s)/Mail Date 10/29/2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

1. The indicated allowability of claims 16,18 and 20 withdrawn in view of a substantial duplicate of claims. Rejections based on a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Double Patenting***

2. Applicant is advised that should claims 1 and 10 be found allowable, claims 13,15,17 and 19 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

3. Applicant is advised that should claim 12 be found allowable, claim 16 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

4. Applicant is advised that should claim 14 be found allowable, claim 18 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

5. Applicant is advised that should claim 12 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Drawings***

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the elastic members ...along the circumference of the electronic component recited in claims 1, 13 and 17 and a connection terminal recited in claims 1-3, 12-14, 16-18 and 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

7. The amendment filed 7/22/2088 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

In claim 1, the limitation " along the circumference of the electronic component " is not adequately supported by the original specification.

In claim 13, the limitation " along the circumference of the electronic component " is not adequately supported by the original specification.

In claim 17, the limitation " along the circumference of the electronic component " is not adequately supported by the original specification.

The examiner also notes that MPEP 2163.05 also states:

The failure to meet the written description requirement of 35 U.S.C. 112, first paragraph, commonly arises when the claims are changed after filing to either broaden or narrow the breadth of the claim limitations, or to alter a numerical range limitation or to use claim language which is not synonymous with the terminology used in the original

disclosure to comply with the written description requirement of 35 U.S.C. 112, para. 1, or to be entitled to an earlier priority date or filing date under 35 U.S.C. 119, 120, or 365(c), each claim limitation must be expressly, implicitly, or inherently supported in the originally filed disclosure.

Please note that inventor is responsible for providing element number for each claimed invention as well as for providing page number, figure number, element number, and column with lines number in the original specification for claims 1, 13 and 17 to verify and in compliance with statute 35 USC 112 first paragraph defined in MPEP and Please note that the claim or claims (1, 13 and 17) must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims (1, 13 and 17) must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description, see MPEP 608.01 (d)(1).

*Claim Rejections - 35 USC § 112*

8. Claims 1, 13 and 17 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a spacer, the specification does not reasonably provide enablement for said elastic member ... along the circumference of the electronic component. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or assemble the invention commensurate in scope with the claims 1, 13 and 17. The specification

doesn't reasonably disclose the claimed subject matter of claims 1, 13 and 17, and therefore the limitation " along the circumference of the electronic component " of claims 1, 13 and 17 is not enabled by the **original** disclosure of the invention. The applicant is required to cancel the claim or provide a reasonable explanation of why they feel the specification supports the subject matter as disclosed in claims 1, 13 and 17. Applicant to refer the specification by page and lines number in the original specification and to the drawing, if any, by reference characters to provide support for claims 1, 13 and 17.

*Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1, 13 and 17-20 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 lines 5-6, the limitation " said elastic member .... along the circumference of the electronic component " is confusing and unclear in light of the specification because the claimed subject matter is not shown on the drawings, The examiner has noticed that Figs. 3b, 4a, 4b, 8b, 9b, 9c, 10b and 11b, the spacer 10a, 10c, 10d, 10e and 10f is attached to the undersurface 54 and side 52 and not along the circumference of the electronic component. Please note that the specification disclosed that " as a generic

feature, there is provided a printed circuit board, which comprises" an electronic component having a component package, on one of whose surfaces a connection terminal is arranged, a printed wiring board on **which the electronic component is fixed,"** see page 6, last paragraph.

In claim 13 lines 5-7, the limitation " a spacer .... along the circumference of the electronic component " is confusing and unclear in light of the specification because the claimed subject matter is not shown on the drawings, also noticed that Figs. 3b, 4a, 4b, 8b, 9b, 9c, 10b and 11b, the spacer 10a, 10c, 10d, 10e and 10f is attached to the undersurface 54 and side 52 and not along the circumference of the electronic component. Please note that the specification disclosed that " as a generic feature, there is provided a printed circuit board, which comprises" an electronic component having a component package, on one of whose surfaces a connection terminal is arranged, a printed wiring board on **which the electronic component is fixed,"** see page 6, last paragraph.

In claim 17 lines 4-6, the limitation " a spacer .... along the circumference of the electronic component " is confusing and unclear in light of the specification because the claimed subject matter is not shown on the drawings, also noticed that Figs. 3b, 4a, 4b, 8b, 9b, 9c, 10b and 11b, the spacer 10a, 10c, 10d, 10e and 10f is attached to the undersurface 54 and side 52 and not along the circumference of the electronic component. Please note that the specification disclosed that " as a generic feature, there is provided a printed circuit board, which comprises" an electronic component having a component package, on one of whose surfaces a connection terminal is



arranged, a printed wiring board on **which the electronic component is fixed,**" see page 6, last paragraph.

In claim 17 lines 1-3, the limitation " a printed circuit board and a printed wiring board" is confusing and unclear in light of the specification because it is not clear that what is different between a printed circuit board and a printed wiring board. It is noted that the specification disclosed that a printed wiring board ( circuit board), see page 1, therefore, the examiner interpreted as a printed circuit board and the wiring board are same device.

In claim 18 lines 1-3, the limitation " a printed circuit board and a printed wiring board" is confusing and unclear in light of the specification because it is not clear that what is different between a printed circuit board and a printed wiring board. It is noted that the specification disclosed that a printed wiring board ( circuit board), see page 1, therefore, the examiner interpreted as a printed circuit board and the wiring board are same device.

In claim 20 lines 1-3, the limitation " a printed circuit board and a printed wiring board" is confusing and unclear in light of the specification because it is not clear that what is different between a printed circuit board and a printed wiring board. It is noted that the specification disclosed that a printed wiring board ( circuit board), see page 1, therefore, the examiner interpreted as a printed circuit board and the wiring board are same device.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21 (2) of such treaty in the English language.

A person shall be entitled to a patent unless --

10. Claims 1, 10-11, 13,15,17 and 19 as best understood, are rejected under 35 U.S.C. § 102(e) as being anticipated by Sanftleben et al (6,614,108).

Sanftleben et al disclose:

Regarding claim 1, a spacer 36,40 for attaching onto a printed wiring board 14 to which is fixed an electronic component 32 having a component package 10, on one of whose surfaces a connection terminal is arranged (see figured 1-2 and entire columns 1-8), said spacer comprising a single-piece elastic member with no ends thereof (see figs 1-2 and entire columns 1-8 ), said elastic member being detachably attached to the printed wiring board in such a way as to enclose the electronic

component to seal a gap between the electronic component and the printed wiring board (see figs 1-2 and entire columns 1-8), and said elastic member being attached to and detached from the printed wiring board on which the electronic component is fixed, by exploiting elastic deformation of said elastic member (see entire columns 2-8), and please note that Sanftleben et al disclosed that improvement indicates the importance of mechanically decoupling the circuit boards and their cases with a gel 36 of this invention (see column 6 lines 55-59) as well as disclosed that it also provides a mechanical slip plane that helps mechanically decouple the circuit board 14 from the case (see column 3 lines 34-40). With respect " along the circumference of the electronic component", considering the drawing objection, the specification object, and 112 first and second paragraph rejection , prior art has not been applied.

Regarding claim 10, the assembly of Sanftleben et al disclose all the features of the claimed invention as shown above, including said elastic member, while in contact with the printed wiring board, is attached around the component package by pressure due to the elastic deformation of said elastic member (see figures 1-2 and entire columns 1-81).

Regarding claim 11, the assembly of Sanftleben et al disclose all the features of the claimed invention as shown above, including said elastic member has a cross-sectional shape with a projecting portion thereof, which projects into the gap between the electric component and the printed wiring board when said elastic member is attached to the printed wiring board (see figures 1-21).

Regarding claim 13, a printed circuit board, comprising:

an electronic component 32 having a component package 10, on one of whose surfaces

a connection terminal is arranged (see figures 1-2 and entire columns 1-8); a printed wiring board 14 to which said electronic component is fixed; and a spacer 42 formed as a single-piece elastic member with no ends thereof detachably attached to said printed wiring board in such a way as to enclose said electronic component to seal a gap between said electronic component and said printed wiring board (see figs 1- 2), said elastic member being attached to and detached from said printed wiring board on which said electronic component is fixed by exploiting elastic deformation of the elastic member (see figures 1-2 and entire columns 1-8), and please note that Sanftleben et al disclosed that improvement indicates the importance of mechanically decoupling the circuit boards and their cases with a gel 36 (see column 6 lines 55-59) as well as disclosed that it also provides a mechanical slip plane that helps mechanically decouple the circuit board 14 from the case (see column 3 lines 34-40).

Regarding claim 15, the assembly of Sanftleben et al disclose all the features of the claimed invention as shown above, including in contact with said printed wiring board, is attached around the component package by pressure due to the elastic deformation of the elastic member (see figures 1-2 and entire columns 1-8). With respect " along the circumference of the electronic component", considering the drawing objection, the specification object, and 112 first and second paragraph rejection , prior art has not been applied.

Regarding claim 17, Electronic equipment, comprising a printed circuit board 14 which includes: an electronic component 32 having a component package 10, on one of whose surfaces a connection terminal is arranged; a printed wiring board to which the

electronic component is fixed; and a spacer 36, 42 formed as a single-piece elastic member with no ends thereof detachably attached to the printed wiring board in such a way as to enclose the electronic component to seal a gap between the electronic component and the printed wiring board, the elastic member being attached to and detached from the printed wiring board on which the electronic component is fixed, by exploiting elastic deformation of the elastic member (see figures 1-2 and entire columns 1-8), and please note that Sanftleben et al disclosed that improvement indicates the importance of mechanically decoupling the circuit boards and their cases with a gel 36 (see column 6 lines 55-59) as well as disclosed that it also provides a mechanical slip plane that helps mechanically decouple the circuit board 14 from the case (see column 3 lines 34-40). With respect " along the circumference of the electronic component", considering the drawing objection, the specification object, and 112 first and second paragraph rejection , prior art has not been applied.

Regarding claim 19, the assembly of Sanftleben et al discloses all the features of the claimed invention as shown above, including the elastic member, while in contact with the printed wiring board, is attached around the component package by pressure due to the elastic deformation of said elastic member (sees entire columns 1-8 and figures 1-2 of Sanftleben).

11. Claims 1, 13 and 17 as best understood, are rejected under 35 U.S.C. § 102(e) as being anticipated by Tsuchiyama (7,119,430).

Tsuchiyama discloses:

Regarding claim 1, a spacer 3 for attaching onto a printed wiring board 1

to which is fixed an electronic component 2 having a component package 20, on one of whose surfaces a connection terminal is arranged (see figured 1-3, 4a-4b and the entire specification), said spacer comprising a single-piece elastic member with no ends thereof (see figs 1-2 and entire column 3 ), said elastic member being detachably attached to the printed wiring board in such a way as to enclose the electronic component to seal a gap between the electronic component and the printed wiring board (see figs 1-2 and the entire specification), and said elastic member being attached to and detached from the printed wiring board on which the electronic component is fixed (see the entire specification), by exploiting elastic deformation of said elastic member (see the entire specification). With respect “ along the circumference of the electronic component”, considering the drawing objection, the specification object, and 112 first and second paragraph rejections , prior art has not been applied.

Regarding claim 13, a printed circuit board 1 (see figs 1-3), comprising:  
an electronic component 20 having a component package 21 (see figs 4a-4b and the entire specification), on one of whose surfaces a connection terminal is arranged (see the entire specification); the printed wiring board 1 to which said electronic component is fixed; and a spacer 3 formed as a single-piece elastic member with no ends thereof detachably attached to said printed wiring board in such a way as to enclose said electronic component to seal a gap between said electronic component and said printed wiring board (see figs 1-3, 4a-4b and the entire specification), said elastic member being attached to and detached from said printed wiring board on which said electronic

component is fixed by exploiting elastic deformation of the elastic member (see figures 1-3 and the entire specification), With respect " along the circumference of the electronic component", considering the drawing objection, the specification object, and 112 first and second paragraph rejection , prior art has not been applied.

Regarding claim 17, Electronic equipment, comprising a printed circuit board 1 which includes: an electronic component 20 having a component package 21 (see figs 4a-4b and the entire specification), on one of whose surfaces a connection terminal is arranged (see figs 4a-4b and the entire specification); the printed wiring board 1 to which the electronic component is fixed; and a spacer 3 formed as a single-piece elastic member with no ends thereof detachably attached to the printed wiring board in such a way as to enclose the electronic component to seal a gap between the electronic component and the printed wiring board (see figs 4a-4b and the entire specification), the elastic member being attached to and detached from the printed wiring board on which the electronic component is fixed, by exploiting elastic deformation of the elastic member (see figures 1-2 and the entire specification). With respect " along the circumference of the electronic component", considering the drawing objection, the specification object, and 112 first and second paragraph rejection , prior art has not been applied.

#### **Allowable Subject Matter**

12. Claims 2-9, 12, and 14 would be allowable if rewritten to overcome the drawing objection, set forth in this Office.

The following is a statement of reasons for the indication of allowable subject matter:

The primary reasons for the indication of the allowability of claims 2-9, 12, 14, and 16 are the inclusion therein, in combination as currently claimed, of the limitation of wherein said elastic member has a frame-like shape with an inner outline which is similar in shape to an outline of the component package, and is smaller in length than the outline of the component package, and is thinner than the gap between the electronic component and the printed wiring board (for claims 2, 4, 6, 8), and wherein said elastic member has a frame-like shape with an inner outline which is similar in shape and length to an outline of the component package and is thinner than the gap between the electronic component and the printed wiring board, and wherein the frame-like shape has a pair of hook portions for projecting into the gap between the electronic component and the printed wiring board, the hook portions being provided on the inner outline of the frame-like shape to oppose to each other (for claims 3, 5, 7, and 9), and wherein the elastic member has a frame-like shape with an inner outline which is similar in shape to an outline of the component package, and is smaller in length than the outline of the component package, and is thinner than the gap between the electronic component and said printed wiring (for claim 14), and wherein the frame-like shape has a catch protrusion on its inner outline, which catch protrusion protrudes into the gap between the electronic component and said printed wiring board (for claims 12).

The previously listed limitation is neither disclosed nor taught by the prior art of record, alone or in combination.



### **Response to Arguments**

13. Applicant's arguments filed 7/22/2008 have been fully considered but they are not persuasive. Specifically, the applicant argues the following:

A) Claims 1, 13 and 17 of the present application, as amended , recites the limitation " a spacer ... along the circumference of the electronic component " is confusing and unclear in light of the original specification because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention.

### **Conclusion**

14. Applicant is duly reminded that a complete response must satisfy the requirements of 37 C.F.R. 1.111, including: "The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references. A general allegation that the claims "define a patentable invention" without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section. Moreover, "The prompt development of a clear Issue requires that the replies of the applicant meet the objections to and rejections of the claims." Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP 2163.06 II(A), MPEP 2163.06 and MPEP 714.02. The "disclosure" includes the claims, the specification and the drawings.

**Contact information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DHIRU R. PATEL whose telephone number is 571-272-1983. The examiner can normally be reached on M-TH, 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DHIRU R PATEL/

Primary Examiner, Art Unit 2831